SEFSC RESPONSE TO RESEARCH REVIEW TEAM DATA REQUEST
February 17, 2004

SEFSC MISSION/OBJECTIVES

NOAA Fisheries' Southeast Fisheries Science Center (SEFSC), is headquartered in Miami, FL, and implements a science and research program that provides information and technology for: 1) fishery resource conservation; 2) fishery development and utilization; 3) habitat conservation, and; 4) the recovery of protected resources and endangered species. SEFSC is responsible for the eight southeastern states, Puerto Rico and the U.S. Virgin Islands, and provides scientific support for NMFS' fishery management activities for the South Atlantic, Gulf of Mexico and Caribbean Fishery Management Councils. SEFSC has significant interactions with the Gulf and the Atlantic States Marine Fisheries Commissions. Internationally, SEFSC provides scientific support for U.S. participation in: the International Commission for the Conservation of Atlantic Tunas, the United Nations' International Oceanographic Commission for the Caribbean; and the International Whaling Commission. SEFSC scientists also work jointly with the government of Mexico on projects of mutual interest in the Gulf of Mexico under MEXUS-Gulf. Attached is a list and summary of the legal mandates under which SEFSC operates

Research and technology development activities are conducted at 5 SEFSC laboratories, each with unique expertise and capabilities: Miami, FL; Panama City, FL; Beaufort, NC (a joint NOS-NMFS facility); Galveston, TX with a lab facility in Lafayette, LA; and Pascagoula, MS, with a lab facility at the Stennis Space Center. SEFSC laboratories collaborate closely, and together, they provide the suite of scientific expertise appropriate for supporting ecosystem management. The expert specialization by each strategically placed coastal laboratory, results in the efficient use of SEFSC resources in addressing issues of local, regional and international significance.

> **Beaufort Laboratory:** Conducts research on biology and the fishery for reef fish, including headboat landings, fishing effort, age and growth, reproduction, and assessment of abundance, to support the management of territorial sea, EEZ, and highly migratory resources. Performs research to support the recovery and conservation of protected species (primarily coastal dolphins), and conducts research on anthropogenic impacts on fishery organisms and their habitat.
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> **Miami Laboratory. Sustainable Fisheries.** Conducts research to determine the distribution and abundance of living marine resources managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) and the Atlantic Tunas Convention Act (ATCA). Performs stock assessments for species such as snapper-grouper, mackerels, highly migratory species (e.g., sharks, swordfish, tunas, and billfish). Scientists also collect and analyze: 1) catch and effort data and 2) scientific information under the Fishery Observer Program for

addressing issues such as bycatch of protected species, the assessment of bycatch mitigation techniques and discard mortality of targeted species; supports cooperative research projects with constituents, states and local governments; conducts economics and social science research to evaluate the socioeconomic impacts of existing and proposed fishery management actions. **Protected Resources.** Implements research to support the conservation and recovery of:1) depleted, threatened, and endangered species of marine mammals and sea turtles and 2) protected fishes and corals; and 3) biodiversity and ecological integrity and function for marine and coastal ecosystems.

Panama City Laboratory: Investigates the biology, life history, recruitment dynamics, ecology, habitats, and fisheries for economically important reef fishes, coastal pelagic fishes, and sharks. Conducts stock assessments and determines gear selectivity patterns; impacts of fishing gear on bottom habitats; documents the extent and nature of reef habitat and reef fishes within marine reserves. Monitors fisheries for their impacts on whales and sea turtles and stock assessments and population modeling. These data are used to promote sustainable utilization of marine and coastal resources.

Mississippi Laboratories: Develops fishery-independent estimates of reef fish abundance; conducts annual trawl surveys to monitor the status of fish and invertebrates; assesses the abundance and distribution of coastal sharks; implements endangered species research; conducts visual and acoustic assessment surveys of cetacean stocks; Develop improved fishing gear and tactics to achieve conservation objectives, develop new fisheries, and enhance operating efficiencies--conducts research and development for Turtle Reduction Devices (TEDs) and Bycatch Reduction Devices (BRDs), and longline interactions. Performs environmental remote sensing; and distributes CoastWatch/OceanWatch operational data.

Galveston Laboratory: Implements scientific research to support the management of commercial and recreational fishery species, characterization of habitats for fishery species, and conservation of endangered sea turtles and other marine species. Conducts research on: essential fish habitats and the use of landscape techniques to identify Essential Fish Habitat by integrating GIS tools into assessments of habitat value; habitat modifications caused by sea level rise, subsidence, changes in freshwater inflow, coastal eutrophication, and broad scale hypoxia; habitat restoration research; describe shrimp population characteristics; monitors bycatch on shrimp trawl vessels using fishery observers and turtle and marine mammal interactions during petroleum platform removal operations; conducts captive rearing of loggerhead sea turtles for use in turtle excluder device (TED) certification trials and other fishery-related studies (e.g. turtle responses to the long line fishing gear).

HISTORY

The Southeast Fisheries Science Center (SEFSC) was established in 1970 in the newly created National Marine Fisheries Service of the U.S. Department of Commerce. The new SEFSC with headquarters in Miami, Florida combined the existing programs of three offshore federal marine fishery research laboratories: the Tropical Atlantic Biological Laboratory at Miami that emphasized fishery oceanography, the Exploratory Fishing and Gear Research Base at Pascagoula, Mississippi that emphasized fishery development, and the Panama City Biological Laboratory at Panama City, Florida that emphasized marine recreational fisheries. Later, two coastal laboratories were included in the SEFSC: the Galveston Biological Laboratory that emphasized shrimp fishery biology and the Beaufort Biological Laboratory that emphasized estuarine ecology. A brief history if each laboratory, is provided below:

Miami Laboratory. The beginning of a federal fishery presence in Miami, Florida, can be traced to the 1870s, when Mr. H. D. Pierce, a lighthouse keeper at the Biscayne Bay Lifesaving Station, Miami, offered assistance in furnishing specimens that would be of interest to Spencer F. Baird, U.S. Commissioner (Reports of the U. S. Fish Commission, vol. III, p. 332 and vol. IV, p. 263-266). By 1954 federal authorities had established an exploratory fishing gear technology base and an office for fishery statistics in Miami, both parts of the Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service, Department of Interior. The Miami facility was named the Tropical Atlantic Biological Laboratory (TABL) in 1965. Research at TABL continued to be directed to the eastern tropical Atlantic off Africa. The expanding U. S. tuna fleet was seeking new fishing grounds and looking to the Atlantic as a possible new fishing area. By 1970, TABL research shifted from the distant eastern tropical Atlantic waters to "closer-to-home" investigations in the western central Atlantic and Caribbean.

The Panama City Laboratory was established in 1966 as the Eastern Gulf Marine Laboratory of the U.S. Department of the Interior, Bureau of Sportfisheries and Wildlife. Former research programs included studies of benthic invertebrate populations, artificial reef research, fishing gear selectivity, and sea turtle conservation, as well as age and growth, food habits, reproduction, and migration of various estuarine and coastal fishes. The Laboratory's main building was designed for marine aquaculture experiments, but these were never implemented.

Galveston Laboratory : In 1931, the Galveston Laboratory originated as one of four FWS field stations to do shrimp research in the Gulf of Mexico, directed out of New Orleans by F.W. Weymouth. The Laboratory was re-established in 1950 at the old U.S. Army Ft. Crockett in Galveston, as a Bureau of Commercial Fisheries Laboratory. In 1956 the U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries Service acquired 10 buildings at the current site. Early efforts focused on oyster biology, the shrimp fishery, and red tide impacts. The

buildings and property were transferred to the National Marine Fisheries Service within the Department of Commerce in 1970.

Beaufort-- By Act of Congress, signed 12 May 1900, provision was made for the establishment of a U.S. Fish Commission marine laboratory at Beaufort. and it is the second oldest Federal fisheries laboratory in the United States. Initial work focused on embryology and life history of invertebrates and fishes common in the Beaufort area. Eventualy the laboratory took on the regional responsibility of learning the life histories of marine animals and plants, their relations to each other and the environment, their resource potential, the effects of man on their abundance, and methods for their scientific culture.

1. Please provide a copy of the most recent evaluation of the lab or center

The caliber and relevance of SEFSC's research is maintained through laboratory/center evaluations, program reviews and peer review of specific scientific publications (**see attached list**). Reviews of the operations of entire laboratories are typically conducted when examining organizational, budgetary and safety issues. For example: 1) reviews of the Pascagoula Laboratory that focused on laboratory consolidation by both the Mitre Corporation, and NOAA; and 2) Observer Safety Review by the Alaska Marine Safety Education Association (AMSEA) which focused on SEFSC's Shrimp Trawl Observer Program. AMSEA's final report should be available in March 2004. The most comprehensive and recent reviews that can be considered laboratory/center-wide was conducted as part of the National Academy of Public Administration Review of NMFS (Courts, Congress and Constituencies: managing fisheries by Default, July, 2002) and Ray Kammer's Report, that was summarized in his Testimony before the Senate Committee on Commerce, Science and Transportation Subcommittee on Oceans, Atmosphere and Fisheries, May 8, 2002.

Reviews to evaluate and strengthen the research being conducted by SEFSC, are usually not laboratory specific, but are rather program specific. These programs: 1) may be comprised of a set of activities at a particular laboratory (e.g. the Headboat Survey Program at the Beaufort Laboratory that is scheduled for internal review May 24-27, 2004); or 2) may be integrated across more than one laboratory (e.g. the Coral Reef Program that involves all SEFSC's laboratories, and is scheduled for external review by 5 leading scientists, March 3-5, 2004). At times SEFSC's science programs are reviewed as part of a NOAA or NMFS-wide review, for example, the Department of Commerce's Inspector General review of the Observer Program entitled "NMFS Observer Programs Should Improve Data Quality, Performance Monitoring, and Outreach Efforts"(Draft Inspection Report No. IPE-15721/January 2004). In addition to programs that are reviewed every few years, we also have programs/activities that continually undergo rigorous internal and external reviews, such as stock assessments.

A number of mechanisms are employed in evaluating SEFSC science programs. Following are examples with the most recent reviews:

Stock Assessments-SEDAR: The SouthEast Data, Assessment, and Review (SEDAR**)** process is a Council process, managed in close coordination with NMFS and the Interstate Commissions. SEDAR seeks to achieve continual improvements in the scientific caliber of stock assessments and their continued relevance to existing and emerging fishery management issues. SEDAR, places special emphasis on increasing constituent/stakeholder participation and an independent scientific review of stock assessments. SEDAR is based on a series of three workshops. In the first workshop, data sets on target species are reviewed and finalized. In the second workshop, an assessment is performed. In the third workshop, independent experts (led by a scientist selected by the Center of Independent Experts-- http://www.rsmas.miami.edu/groups/cie/) review the assessment as well as the data that is used in the assessment. Reviews are available at: http://www.sefsc.noaa.gov/sedar.jsp

ICCAT Reviews: The Standing Committee for Research and Statistics of the International Commission for the Conservation of Atlantic Tunas routinely reviews pertinent work performed/supported by the Center. Copies of the results of such recent reviews can be found at the ICCAT web site (www.iccat.es)

NOAA Habitat Restoration Matrix Implementation Team Review Galveston Laboratory Habitat Program was reviewed (April 2003) in the Habitat Restoration Matrix. Reviewers were HRMIT Executive and Advisory Team members. Researchers presented information on the scope and accomplishments of Galveston Lab's habitat program activities in Gulf of Mexico wetlands and Caribbean coral reefs. The evaluation resulted in acceptance of the Laboratory into the HRMIT as a science collaborator. No formal review report was prepared.

NRC Reviews We were the subject of the NRC review of the scientific and technical information pertaining to the conservation of sea turtles and the causes and significance of turtle mortality, including that caused by commercial trawling. "Decline of Sea Turtles, 1990-causes and prevention" 1990, National Academy Press. (www.nap.edu)

NRC Associateship Program Reviews: NRC also conducts reviews of our laboratories, to determine if they meet the scientific standards for participating in the National Research Council Associateship Program. Research Team Leaders and individual researchers present their on-going research and future directions to NRC reviewers. All of our labs have been reviewed and exceeded this standard, except for our Panama City facility which is in the process of becoming a full-fledged laboratory, for which an NRC review in scheduled in 2004. Written records of the NRC reviews are currently unavailable, and our laboratories continue to participate in the NRC Associate Program.

Center of Independent Experts (CIE) Reviews. The CIE provides support for SEDAR (discussed above), and also reviews specific programs or efforts as requested. For example, the CIE reviewed, "Stock Assessments of Loggerheads and Leatherback Sea Turtles and An Assessment of the Impact of the Pelagic Longline Fishery on the Loggerhead and Leatherback Sea Turtles of the Western North Atlantic," March 2001. Report available from CIE

NOAA Cooperative Institute of Marine and Atmospheric Studies(CIMAS)Review. A Review of the Cooperative Institute of Marine and Atmospheric Studies, was conducted by NOAA in 2003. The review included presentations and discussions of work involving SEFSC researchers. Report available from CIMAS

Congressionally Mandated Reviews. Congress mandated a scientific assessment of the status of red snapper in the Gulf of Mexico. In 1997, three separate panels were established for this review: the Statistics Review Panel, the Economics Review panel and the Science and Management Review panel. Peer Review of Red Snapper research and Management in the Gulf of Mexico. Report and NOAA responses not electronically available –hard copies are available upon request.

3. Please provide listing of major customers of the lab/division, with a one sentence description of what is being done for them

The Southeast Fisheries Science Center and its five constituent laboratories conduct research to provide scientific and technical advice to local, state and federal management organizations in the region. Major government customers include three Regional Fishery Management Councils, the Atlantic and Gulf States Marine Fisheries Commissions, eight States, the Commonwealth of Puerto Rico, the territory of the U.S. Virgin Islands, the National Marine Sanctuary Program, several National Parks, the U.S. Navy, and multiple state and local agencies; international organizations, including the Marine Mammal Commission, International Commission for the Conservation of Atlantic Tunas (ICCAT) and various partner countries, especially in the greater Caribbean Region. Our products are directly used in the scientific and educational communities by academic organizations, including universities, elementary, middle and high schools. Our customers include a broad range of stakeholders representing fishing and tourist industries, fishing clubs, conservation organizations, private citizens and the general public.

Summary of types of products:
Fishery management councils are provided stock assessments (peer-reviewed via the SEDAR process, which was originated at the Beaufort Lab), technical reports, and special data summaries/analyses to support resource management activities consistent with the mandates/requirements under governing Federal law and regulations.

Atlantic States Marine Fisheries Commission, Gulf States Marine Fisheries Commission, and individual coastal states are provided fishery stock assessments, fishery monitoring data, and scientific advice to support coastal fisheries management under the Interstate Commissions role and to the individual states fishery management agencies. Provisions of the Atlantic Coast Fishery Cooperative Management Act (ACFCMA) apply for ASMFC interjurisdictional species management.

Research publications, advice and collaborative interactions with other Center scientists further the development of improved stock assessments techniques, resource evaluation (South Florida, FL Keys National Park, Gulf of Mexico ecosystem planning for example), research reviews/development to meet national goals and Congressionally mandated studies.
Technical support is provided for mandated reports, Southeast region inputs to national planning of scientific programs (NMFS and NOAA), and improved scientific products and research expertise for meeting the agency's mission. Restoration center uses research products in island and mainland marsh site evaluations.

The general public and fishing industry are provided technical reports, fishery status reports, general information summaries on the fisheries and resources of the southeast

that enable the public to better understand the research that NMFS does and how it relates to their life. This takes the form of informal talks, articles, posters, and general conversations with individuals or representatives of groups and constituents.

Universities and Government researchers: The quality and quantity of NMFS scientific products are enhanced through collaboration with professional peers in the scientific community, mentoring students, and/or development of outreach programs to encourage fisheries as a professional career choice, i. e. VPI-SU Coop. Unit; outreach to MSI's such as Elizabeth City State University and U. MD. Eastern Shore.

Other Federal Agencies (USFWS, USACOE, NOS, etc.): Shared technical reports and collaboration provide better scientific products, multi- disciplinary research. (South Florida for example)

4. Please provide a summary of research being conducted.

Marine Mammals
Objectives: Scientists carry out marine mammal research and science required for meeting NOAA Fisheries' mandates for the recovery and conservation of protected species under the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and other applicable law.

Description: Scientists conduct research to support the conservation and recovery of depleted, threatened, and endangered species of marine mammals by: conducting species-population assessment surveys; research on stock structure including genetics, radio tagging, photographic identification, and morphological studies; assessing strandings of marine mammals and unusual stranding events; conducting research on the use of passive acoustics to detect and assess the distribution and seasonal movements of marine mammals; preparing annual stock assessment reports for populations of marine mammals in the southeast region; and participating in the International Whaling Commission's Scientific Committee meeting as a member of the U.S. Scientific Delegation, SEFSC scientists undertake this work in collaboration with other NMFS and NOAA Protected Resources staff, academic colleagues, and independent contractors. Staff members also provide scientific information with the results of analyses to federally mandated Take Reduction and Technical Recovery teams.

Sea Turtles
Objectives: Carry out sea turtle research and science activities required for meeting NOAA Fisheries' mandates for the recovery and conservation of protected species under the MMPA, the ESA, and other applicable law.

Description: Scientists in the Sea Turtle Program implement research to support the conservation and recovery of threatened, and endangered sea turtle species by conducting population assessments; research on stock structure and genetics; assessments of sea turtle strandings and unusual events; and revision of stock assessment reports for populations of sea turtles in the Western North Atlantic Ocean. SEFSC scientists

undertake this work in collaboration with other NOAA Protected Species staff, academic colleagues, and contractors. SEFSC scientists provide information and analytical results on species status and threats to the Southeast Regional Director and NMFS headquarters for the effective management of marine turtles. The information is critical for evaluating the appropriate listing of species, as required under the ESA. Scientists also provide information to scientists in Mexico through mexus- Gulf Turtle Working Group; and contribute to the proceedings of the Annual Sea Turtle Symposia. Scientists also take part in implementing the NMFS Atlantic Sea Turtle Strategy that is aimed at addressing the incidental capture of turtles in commercial and recreational fisheries. The goals of the strategy are to: 1) Conserve and recover sea turtles, 2) Authorize fishery takes consistent with ESA mandates, 3) Increase effectiveness in management, and 4) Prioritize fishery interaction concerns. Steps to achieve the goals include improving stock assessments and bycatch estimations, evaluating the significance of bycatch by gear type, and convening specialist groups to prepare plans for reducing take for gear types with significant take levels. Implementation of the strategy also includes collecting, analyzing, and providing information on bycatch for Highly Migratory Species (HMS) fisheries and other fisheries; the development of robust estimation and risk-assessment methodologies to determine tradeoffs of sea turtle management actions; and strategy planning, including environmental impacts of the strategy under the National Environmental Policy Act (NEPA).

Biodiversity Investigations

Objectives: Conduct research to support recovery and conservation of marine biodiversity under the MMPA, the ESA, Magnuson-Stevens Fishery Conservation and Management Act (M-SFCMA), Marine Sanctuaries Act (MSA), and other applicable law.

Description: Scientists contribute to the conservation, recovery and management of marine biodiversity by conducting research and providing scientific and technical advice to local, state, and federal management organizations, including Fishery Management Councils and the National Marine Sanctuary program. Research covers the following themes: 1) Application and evaluation of no-take marine reserves as a fishery management tool to support sustainable fisheries, and protect marine biodiversity and ecosystem function; 2) Ecosystem structure and function coral reefs are highly complex ecosystems where productivity depends on maintaining biodiversity, healthy habitat, and functional interactions among biota. Research seeks to better understand coral reef ecosystem structure and function by examining population dynamics and interactions among species, habitat, and physical environmental factors in supporting the implementation of comprehensive reef management measures; 3) Essential Fish Habitat (EFH), coral reefs and other hard bottom habitats are essential fish habitats under stress from fishing and alteration from natural and human disturbance including global climate change. Research focuses on a wide range of habitat issues including evaluation of habitat quality and problems involving hard bottom benthos and coral reefs; 4) Habitat Restoration: Research on habitat restoration and enhancement activities is an important focus of activities. Restoration of habitat damage from vessel grounding or natural disturbance is a growing problem in shallow coastal waters. Research is aimed at

developing and testing new methods to monitor and restore damaged habitat. Research is also conducted to evaluate the effectiveness of artificial reefs and to enhance or mitigate resource damage by natural or human activities. Research examines technical questions involving fishing gear effects on populations and habitat; 5) Biological Research: Fundamental biological research is essential to support stock assessments and management decisions. With over 1,000 species of direct commercial importance and over 600 species of recreational, ecological, or aesthetic importance in the southeast region, it is essential to have detailed behavioral and life history information for management purposes. Emphasis is on managed economically and ecologically important and threatened species; 6) Improve Fishery-Independent Assessments: fisheries traditionally rely on fishery-dependent data to assess stocks. These data provide only limited information for most species, especially those without direct economic value. Research activities develop and use innovative visual, optical, and acoustic methods and technology to collect fishery-independent data on the status of exploited and non-exploited species with emphasis on non-destructive technology; 7) Conduct early-life history and early-life ecology on southeastern species through ichthyoplankton research integrated with oceanographic dynamics in the western Atlantic Ocean, including the Caribbean Sea and Gulf of Mexico.

South Florida Ecosystem

Objectives: Ensure that coastal ecosystems are restored or otherwise improved and are not harmed by the comprehensive everglades restoration project, which will modify the quantity, quality, timing, and distribution of freshwater inflow to estuaries and near shore areas in southern Florida.

Description: Division scientists in conjunction with colleagues from other federal, state, and local agencies are conducting research and participating in multi-entity working groups to provide scientific information to water management agencies in southern Florida in order to 1) predict the effect of water management alternatives on downstream estuaries and 2) assess the impact of projects that are implemented. The objective is to ensure that the comprehensive everglades restoration project (CERP) protects and improves the ecological functioning of Florida Bay, other southern Florida estuaries and coastal waters, and the Florida Keys reef tract. Research objectives are being addressed with a set of projects funded through a competitive process. The emphasis is on formulating and building scientific knowledge about ecological indicators. Current projects include: modeling pink shrimp recruitment from Florida Bay, population studies, abundance, habitat use, trophic descriptions, and reproductive status of marine turtles inhabiting Florida Bay, reef fish community dynamics and linkages with Florida bay, development of spatially-explicit models to predict growth potential of age-0 gray snapper in Florida Bay during restoration of freshwater flows, and upstream larval supply to Florida Bay and Dry Tortugas connection. Other funding for south Florida ecosystem projects comes from the NOAA ESDIM Program and the State of Florida. These projects include rescue of data from a fish community study in the ten thousand islands, prevalence of abnormal fish as an indicator of environmental quality in the St. Lucie estuarine system and performance measures based on the epibenthic community in western nearshore south Biscayne Bay.

Population Dynamics
Objectives: Conduct biological research and stock assessments to support the management of territorial sea, Exclusive Economic Zone (EEZ), and highly migratory resources.

Description: Activities of the Population Dynamics Team supports the management of territorial sea, EEZ, and highly migratory species, by: 1) the collection, computerization and summarization of fishery-derived data from the Gulf and Atlantic menhaden fisheries -- these data form the foundation of NMFS research on the monitoring of these two ecologically and economically important fish stocks. Specific activities include collection of age and size samples, sampling landings for lesions and diseases, and compilation of landings data; 2) conducting or collaborating in stock assessments on reef fishes and pelagics. Species include those under the purview of the Atlantic States Marine Fisheries Commission, South Atlantic and Gulf FMCs , the International Commission for the Conservation of Atlantic Tunas; and 3) conducting research to improve assessment models. Software and techniques developed in this activity are now used by assessment scientists in NMFS centers and international fisheries institutes. Both components of this activity support rebuilding overfished stocks, sustaining healthy stocks, and increasing outreach.

Protected Resources:
Objectives: Carry out NOAA Fisheries' mandates for the recovery and conservation of protected species under the Marine Mammal Protection Act, the Endangered Species Act, and related legislation.

Description: Scientists conduct research to support the conservation and recovery of depleted, threatened, and endangered species of marine mammals and sea turtles. Research focuses on defining stock structure using complementary techniques including genetics, radio tagging, photographic identification, and morphological studies; estimating abundance by means of mark-recapture methodology and index-of-abundance sites to monitor trends in abundance, sex ratio, and growth rates; determining causes of mortality as determined from stranded animals; documenting human-caused mortality in commercial fishing gear and researching means of mitigating that mortality; and estimating life-history parameters such as age, growth and reproduction from live animals and from samples collected from dead animals. Scientific information and analyses are also provided to federally mandated Take Reduction Teams and Technical Recovery Teams and to the NOAA Fisheries' Southeast Regional Office to assist with their management activities.

Habitat Ecology
Objectives: Develop an understanding of the processes affecting the distribution, abundance, and use of natural and restored habitats by fishery organisms, and develop techniques and methodologies to evaluate natural and anthropogenic impacts on fishery organisms and their habitat.

Description: Scientists conduct research to conserve coastal and estuarine habitats that serve as significant spawning and nursery areas for commercial and recreational marine fishery species. These habitats are being impacted and are experiencing losses at alarming rates due to coastal development, pollution, fishing practices and other human activities as well as natural factors. Additionally, scientists and managers lack the fundamental knowledge on habitat distribution, patterns of use by fishery species, natural processes and human impacts that cause fishery and endangered species losses. The early life history of many species of marine fishes is also not well documented, yet events during this phase could have a significant impact on recruitment. A clearer understanding of the early life history of fishes and their habitats is needed to evaluate the relative impacts of natural factors and human-induced environmental perturbations. Because of the increasing loss of coastal and estuarine fishery habitat, restoration, mitigation and habitat creation technologies must continue to be developed and evaluated to enhance habitat recovery, especially essential fish habitat. Moreover, direct intervention on the part of scientific staff to implement these technologies is required. With the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act in1996, greater emphasis is being placed on Essential Fish Habitat (EFH) and, as a consequence, the scientific information generated through this research described is critical to provide necessary information to both NMFS and the FMCs to make recommendations on EFH and to support the Endangered Species Act.

Reef Fish

Objectives: Conduct research on biology and fishery for reef fish, including headboat landings, fishing effort, age and growth, reproduction, and assessment of abundance. The program also supports conservation and recovery efforts through evaluations of marine protected areas and also provides scientific recommendations to Fishery Management Councils.

Description: Scientists conduct research to support the conservation and recovery of the reef fish fishery. Information is collected on the reef fish fishery through headboat surveys that are conducted using a system of field sampling and a system of logbook catch/effort reporting by headboat operators. Biological samples collected by field personnel are analyzed with standard biological techniques, including visual examination of otoliths and histological examination of gonads. Mathematical and modeling techniques are then conducted to produce spawning stock ratios, yield per recruit estimates, and production of virtual population analyses. Also, descriptions of reef fish communities are conducted through quantitative visual procedures employed by divers using SCUBA and submersible devices. Studies conducted include age/growth/mortality/reproduction of reef fishes (currently working on nine species of snappers or groupers), and response of various species to different levels of fishing mortality and different ages of entry to the fishery. This work results in numerous reports for resource managers and peer-reviewed scientific journal publications.
This research applies directly to the fisheries management program area. Headboat fishery monitoring, life history studies, and analyses are targeted directly to developing scientific information in support of resource management under the Sustainable Fisheries Act in the South Atlantic, Gulf of Mexico and Caribbean areas. Research results form

much of the input data in stock assessments performed under the population dynamics area above.

Fishery Statistics and Socio-economics
Objectives: conduct fishery stock assessments, participates in stock assessment reviews, and assesses the impacts of regulatory proposals made by the South Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils, and the International Council for the Conservation of Atlantic Tunas (ICCAT). Scientists also conduct studies of highly migratory species (tunas, sharks, and swordfish) and operate observer programs to obtain catch and effort and biological information.

Coordinates with state and federal personnel in the collection of fishery dependent data. Scientists also administer a State/Federal Cooperative Statistics Program, manage a centralized fishery information database, and monitor the catch of quota-managed species.

Description: collect catch, effort, tagging, and bioprofile data on Atlantic billfish to monitor trends in abundance. Scientists also maintain an Atlantic-wide cooperative tagging database and provide management advice on the use of archival and satellite tagging techniques.

Collects fishery dependent data from commercial fisheries through interviews with fisherman, seafood dealers, and processors to obtain quantity, price, and effort information. Scientists also sample catches of commercially exploited species to provide biological materials for analysis to determine size, fecundity, sex, age, and other attributes of fishery species.

The research conducted is designed to provide scientific and technical guidance to management on the status of stocks affected by fisheries under management by the Gulf of Mexico, U.S South Atlantic, Caribbean Sea, U.S. Atlantic Highly Migratory Species Fisheries Management authorities and applicable international conventions, treaties and agreements.

The Gulf of Mexico (GMFMC), South Atlantic (SAFMC), and Caribbean (CFMC) Fishery Management Councils as well as the NMFS Highly Migratory Species (HMS) Management Branch require regular stock assessments of coastal pelagic, reef, HMS and other resources under jurisdiction of various Fishery Management Plans (FMP). Scientific advice is formulated with respect to the fishery management objectives held within each FMP, consistent with the policies defined in the Magnuson-Stevens Fishery Management Act or through the Atlantic Tunas Convention Act and the International Commission for the Conservation of Atlantic Tunas. The scientific assessments are used to develop regulatory options for fisheries affecting fish stocks. Priority setting for annual assessments is established through an operations-planning exercise conducted with the councils and HMS early in the fiscal year. Scientists also collect and analyze key scientific information collected under the Fishery Observer Program for addressing many contentious fishery management issues such as bycatch of protected species, the assessment of bycatch mitigation techniques and discard mortality of targeted species. Basic biological information is also collected (e.g. life history information). Additionally,

staff manage a Cooperative Research Program that supports science projects with constituents, states and local governments that address critical fisheries research needs. In support of provision of scientific advice on management and status of fisheries, research is also undertaken to collect, coordinate and process catch, effort and size frequency data from the commercial fisheries that operate principally in the Southeast Region. The program supports stock assessments, fisheries management and economic analyses for many federally managed fisheries in the southeastern United States and U.S. Caribbean.

Commercial fishery statistics are collected by a variety of methods within the southeastern United States and U.S. Caribbean Sea. Landings statistics are collected by each state under their respective legislative authority and are provided to the SEFSC under the State/Federal Cooperative Statistics Program. Fishery Statistics staff are responsible for the catch and effort (as well as location of catch) collected under the SEFSC/NMFS mandatory logbook programs. These programs include logbooks from vessels that are required to have federal vessel permits in the southeast and in the northeast for highly migratory species. Catch and effort data are also collected from the shrimp fishery in the Gulf of Mexico by 30 full-time port agents located at key locations along the eastern coast of Florida and the Gulf of Mexico. These field personnel also conduct dockside interviews with fishermen to collect size frequency, species composition, and biological specimens (otoliths, gonads, stomach contents, etc) on selected species. Personnel within the fishery statistics program are also responsible for collecting and processing time-sensitive landings data that are used to monitor fishery quotas.

Economics and social science research are also conducted to evaluate the socioeconomic impacts of existing and proposed fishery management actions, and value marine and coastal resources,

4a. For each research theme identified above, include a brief explanation of how this research relates to NOAA program areas. (The program areas are those identified in the recent Program Baseline Assessment.)

Marine Mammal: research relates to the following program areas: primarily protected species management, but also protected areas, coastal resource management, fisheries management, and ecosystem research

Sea Turtle: research relates to the following program areas: protected species management, habitat restoration, corals, protected areas, coastal resource management, invasive species, fisheries management, enforcement and ecosystem research.

Biodiversity Investigation: research relates to the following program areas: habitat restoration, corals, protected areas, coastal resource management, invasive species, undersea research and explorations, protected species management, fisheries management, enforcement, and ecosystem research.

South Florida Ecosystem: research relates to the following program areas: habitat restoration, coral reefs, protected areas, coastal resource management, invasive species, protected species management, fisheries management, and ecosystem research.

Fishery Statistics and Socio-economics: The research conducted directly relates to the NOAA Fisheries Management program area.

4b. Provide the geographic scope for each research area - regional, national, global.

Marine Mammal: research is focused on the southeastern U.S., Gulf of Mexico, Caribbean Sea, and western Atlantic region. Scientific principles derived may have national and global applications.

Sea Turtle: research is focused on the southeastern U.S., Gulf of Mexico, Caribbean Sea, and western Atlantic region. Scientific principles derived may have national and global applications.

Biodiversity Investigations: research is focused on the southeastern U.S., Gulf of Mexico, Caribbean Sea, and western Atlantic region. Scientific principles derived may have national and global applications.

South Florida Ecosystems : reasearch is focused primarily on the southern Florida region although larval dispersal and early life history studies include Mexico and the northern Caribbean region. Scientific principles derived may have national and global applications

Population Dynamics: Geographic scope of this research on fishery resource management is at regional and international levels. Time frames include short term (fishery monitoring and annual estimates of harvest), mid term (stock assessments on species scheduled at 3-5 year intervals), and long term (development and refinement of modeling approaches and development of new new methods).

Menhaden stock assessments and fishery monitoring for the Gulf and Atlantic menhaden fisheries is conducted by NMFS staff. Two interstate commissions and respective coastal states base their management actions upon the NMFS fishery data collection programs and analytical support.

Reeffish and pelagic species stock assessments are the technical underpinnings for regional fishery management councils in meeting their SFA mandates for fishery management.

Research pertaining to improved analytical methods may apply to regional, national and global scales.

Protected Resources: This research applies directly to protected species management at regional and national levels. Our efforts to refine the scientific knowledge of coastal bottlenose dolphin have impact on the near shore coastal fisheries of the states and regional fisheries councils in Federal jurisdictions. Data from our research are utilized in

population modeling and status determination of marine mammals and sea turtles. The main timeframe for this research is mid-term in for the stock status determination.

Habitat Ecology: This research directly applies to habitat restoration and coastal resource management. Habitat relationships and characteristics of EFH apply to coastal management practices and marsh restoration. The geographic scope of the research is regional and short to mid-term in duration in that the study system dynamics are complex and interannual variability can be significant.

Reef Fish: Geographic scope of the reef fish research is regional except that life history information may span several geographic regions due to species range.

Fishery Statistics: The geographic scope for this research includes the US EEZ within the Gulf of Mexico, the US Caribbean, and the Southeastern US Atlantic. For Highly Migratory Species, the geographic scope extends to the entire Atlantic Ocean (including the Gulf of Mexico and Caribbean Sea) and the Mediterranean Sea, consistent with the ICCAT Convention area.

4c Provide the main time frames for each research area - short term, (0-2 years), medium term, (2-5 years), long term (greater than 5 years).

The marine mammal, sea turtle, biodiversity investigation, and south Florida ecosystem teams all conduct research and monitoring over short-term, intermediate-term, and long-term horizons depending on the specific project.

The Population Dynamics team, Protected Resources, Habitat Ecology and Reef Fish teams research programs have short-term, medium-term, and long-term components. Long-term applies to development of multiyear/decadal data series for fisheries, which are potentially of great value in stock assessments in that they track fluctuations in stock abundance.

The main time frame for fishery statistics programs and socio-economics is long term.

5. Please provide a listing of 3-5 major accomplishments (per laboratory) in the last five years

With the Fishery Management Councils in the southeast region, we developed and implemented a new process for peer review of stock assessments:
SouthEast Data, Assessment, and Review (SEDAR).

Completed comprehensive stock assessments on Red Porgy, Black Seabass, Vermilion Snapper, plus Atlantic menhaden and Atlantic Croaker which were conducted under the SEDAR protocols.

Conducted quantitative revision to common bottlenose dolphin population status: and coordinated (lead) the take-reduction- team effort for that species.

Successfully demonstrated and implemented a new modeling approach for Atlantic Menhaden stock assessment (approved in SEDAR review).

Monitoring nekton populations at the Poplar Island Restoration site and at Island Marsh Sites has provided critical information on habitat use, species residency/dispersal characteristics which will guide resource managers in the priority selection of wetland/marsh habitats for preservation, restoration or creation to optimize functions for valuable fishery species.

Over the past 5 years, on average, 10 stock assessment analyses per annum have been produced in support of fisheries management in the region.

Provided critical data (decadal time series of age structure and reproductive information) needed to elevate stock assessments to new national standards of excellence for 5 previously-assessed species (red grouper, red snapper, gag, king mackerel, and Spanish mackerel) and 3 newly-assessed species (scamp, yellowtail snapper, and yellowedge grouper) which, for the first 5 species, led to conclusions of improved stock conditions over previous assessments.

Completed comprehensive stock assessments for large coastal sharks, small coastal sharks, and pelagic sharks in U. S. waters of the western North Atlantic, all within one year.

Assessments of abundance, distribution, and susceptibility to poaching of economically valuable reef fish in northwest Florida Marine Protected Areas were successful in convincing the Gulf of Mexico Fishery Management Council to extend the temporal duration of 4-year experimental closures for another 6 years.

Demonstrated that ambient shrimp trawling effort off the heavily exploited Texas coast did not lead to demonstrable changes in sediment characteristics or benthic communities and, by extension, to changes in food web interactions and energy flow.

Assessments of habitat damage and fisheries impacts to coral resources were used to extend the spatial extent of Florida's *Oculina* Habitat Area of Particular Concern.

MARINE MAMMAL TEAM:

1. Improved stock assessment of western north Atlantic coastal bottlenose dolphin (*Tursiops truncatus*). The western north Atlantic coastal bottlenose stock has been a subject of management concern due to a severe depletion of the population during1987-1988 and interactions with commercial fishing activities. Prior to 1997, there was no reliable estimate of the total abundance of bottlenose dolphins along the U.S. Atlantic and little understanding of the genetic structure of the population. An intensive research program was initiated by the Southeast Science Center in 1998 to increase collections of

biopsy tissue samples for genetic analysis, conduct tagging and tracking studies, evaluate coastwide photo-identification databases, evaluate population structure, and conduct aerial surveys for abundance estimation. As a result of these efforts, at least seven distinct population units (stocks) of bottlenose dolphins have been identified along the U.S. Atlantic coast and precise and accurate abundance estimates for each of these stocks have been developed. This improved the understanding of the status of bottlenose dolphin stocks contributed to the recent development of a take reduction plan to reduce incidental mortality during commercial fishing operations.

2. Developed hydroacoustic tools for marine mammal assessment surveys.
Marine mammal assessment surveys have traditionally employed visual line transect methodologies that suffer from several known biases and limitations. Most notably, these surveys cannot be reliably conducted in poor weather conditions or at night, and marine mammals that are submerged cannot be seen by visual observers. To address these constraints and improve the capability to assess marine mammal abundance, the Southeast Science Center with support from the U.S. Navy, has developed a passive hydroacoustic system that can detect and localize marine mammal vocalizations during line transect surveys. The system has become a standard addition to all the Southeast Science Center marine mammal assessment surveys significantly improving our overall capability to quantify marine mammal populations.

3. Monitored abundance and spatial distribution of northern right whale (*Eubalaena glacialis*) in the southeast U.S. critical habitat to mitigate ship strikes.
The northern right whale (*Eubalaena glacialis*) is one of the most critically endangered large whale species in the world. The only known calving ground for this species occurs in southeast U.S. waters off of the coasts of Georgia and northern Florida. This region is also an area of significant levels of commercial and military shipping, which poses a threat to calves and pregnant females. The Southeast Science Center in partnership with the U.S. Coast Guard, U.S. Navy, Army Corps of Engineers, and the NOAA Fisheries Southeast Regional Office has funded and managed aerial survey programs to monitor right whales in the southeast U.S. critical calving habitat during winter months during the last decade. These surveys are designed primarily as a mitigation program to identify the location of right whales and notify mariners of their presence to reduce the potential for collisions. On numerous instances in the last five years, survey teams have directly observed close approaches between vessels and right whales and communicated with ships to ask them to alter course to avoid the whale. In addition, these surveys provide critical information on the reproductive status of the population by quantifying the number of calving females and calves produced in each year. Survey data is also used to evaluate the essential habitat characteristics that determine the spatial distribution of northern right whales during winter months. These ongoing surveys are a critical component of NOAA Fisheries' efforts to conserve and recover the right whale population.

4. Responded to marine mammal stranding events in the southeast U.S.
the Southeast Science Center coordinates and manages the marine mammal health and stranding response program for the southeastern U.S. including mid-Atlantic states south

of Virginia and the Gulf of Mexico coast. During the last five years, the stranding response program has built and managed a stranding network of numerous volunteer agencies operating in eleven coastal states. The southeast U.S. stranding network responds to an average of 825 stranded marine mammals each year. During the last 5 years, there have been at least 12 "mass stranding" events of various marine mammal species averaging 20-40 animals per event, though occasionally numbering in the hundreds of animals. Program activities include coordinating responses to stranding events, ensuring adequate veterinary care for stranded and rehabilitated animals, and collecting and managing data from stranded marine mammals.

5. Conducted research surveys to assess marine mammal abundance in U.S. EEZ waters off the Atlantic Ocean and Gulf of Mexico.The Southeast Science Center marine mammal program, with support from the U.S. Navy and Minerals Management Service, has conducted a series of shipboard surveys to estimate abundance and evaluate the status of marine mammal stocks. This includes three surveys over the Atlantic continental shelf and continental slope between Florida and Delaware conducted during 1998, 1999, and 2002. In addition, surveys have been conducted in the Gulf of Mexico and Caribbean waters around Puerto Rico. These surveys document the spatial distribution and abundance of over 60 marine mammal species. Information derived from the surveys is used in the preparation of environmental impact statements by the U.S. Navy and other federal agencies and contributes to annual stock assessment reports produces by NOAA Fisheries as required under the Marine Mammal Protection Act.

SEA TURTLE TEAM:

1. Completed assessments for Kemp's ridley, loggerhead and leatherback sea turtles, including an assessment update for the Kemp's ridley and loggerhead sea turtle populations in the western North Atlantic (NOAA TECH. MEMO. NMFS-SEFSC-444); and stock assessments of loggerhead and leatherback sea turtles and an assessment of the impact of the pelagic longline fishery on the loggerhead and leatherback sea turtles of the western North Atlantic (NOAA TECH. MEMO. NMFS-SEFSC-455)

2. Completed Bycatch Analyses for Pelagic Longline and Shrimp Fisheries:
Analysis of sea turtle bycatch in the commercial shrimp fisheries of the southeast U.S. waters and the Gulf of Mexico (NOAA. Memo. NMFS-SEFS-455)
Estimated bycatch of marine mammals and turtles in the U.S. Atlantic pelagic longline fleet during 2001-2002 (NOAA Tech. Memo. NMFS-SEFSC-515)

3. Provided research results that supported Section 7 Biological Opinions and ESA and Magnuson-Stevens regulations:
Turtle excluder devices - are the escape openings large enough? (Fish. Bull. 100:466-474)
Experiments in the western Atlantic northeast distant waters to evaluate sea turtle mitigation measures in the pelagic longline fishery. Report on experiments conducted in 2001 and 2002 (unpublished report).

Experiments in the western Atlantic northeast distant waters to evaluate sea turtle mitigation measures in the pelagic longline fishery. Report on experiments conducted in 2001 -2003 (unpublished report).
Effect of hook size on ingestion of hooks by loggerhead sea turtles (unpublished report)

Biodiversity Investigations Unit:
Assessments Team:
1. Demonstration of effectiveness of no-take zones in the Merritt Island National Wildlife Refuge at Cape Canaveral to protect resources within the MPA and to provide benefits recreational trophy fisheries in surrounding waters (Johnson et al. 1999. *in* N. Am. J. Fish. Management, Roberts et al. 2001 in Science).
2. Monitoring of the response of coral reef fishes to no-take marine reserves established in 1997 within the Florida Keys National Marine Sanctuary.
3. Spatial reef fish assessments conducted for Biscayne National Park (Ault et al. 2001) and Dry Tortugas National Park (Ault et al. 2002) using non-destructive, fishery-independent, diver based visual data. Data were also used in fishery stock assessments for yellowtail snapper, goliath grouper, and hogfish.
4. Contributions through numerous publications to the theory and science of marine protected areas for supporting sustainable fisheries and protecting marine ecosystems biodiversity.

Benthic Resources Team:
1. Completed a comprehensive quantitative assessment of marine resources remotely located Navassa Island. This accomplishment resulted from extended cruises in partnership with a participant in a 2000 cruise to Navassa sponsored by CMC (now Ocean Conservancy). A partnership was built between SEFSC/PRB/Benthic Team and the U.S. Fish and Wildlife Service - Caribbean Islands National Wildlife Refuge. We provided input on marine resources to USFWS as part of their comprehensive biological review in Jan 2002. SEFSC also funded (through coral reef program) a cruise to Navassa in late 2002, which provided a much more extensive baseline assessment of benthic and fish assemblages to a depth of 30 m. Long-term benthic monitoring plots were established to facilitate future assessment of coral recruitment/mortality. Also, qualitative observations of fishing activity by migrant haitians were undertaken.

2. Contribution to understanding of status of candidate corals: *Acropora palmata* (elkhorn coral) and *A. cervicornis* (staghorn coral) are important reef-building corals in the Caribbean that have undergone drastic population declines since the early 1980's and are candidates for listing under ESA. Our team has undertaken multifaceted research efforts to: 1) quantify a real extent of decline of both species at Looe Key reef in the Florida Keys (peer-reviewed publication in Coral Reefs), 2) assess population status and impact of an important predator on these two coral species (results compiled in peer-reviewed publications in Marine Biology and Coral Reefs, and a NOAA Technical Memorandum), 3) monitor the fate of new recruits of both species at a range of sites throughout the upper Florida Keys to assess possible population recovery (to be presented/published in 10thICRS in July 2004) and 4) assess genetic status of A.palmata throughout the Caribbean including clonal structure and degree of population

connectivity (multiple peer-reviewed pubs submitted or in prep). All of these results are feeding directly into the formal Acropora spp. status review being conducted by NMFS/SERO.

3. Discovery and response to staghorn coral disease outbreak: in late spring 2003, our team discovered a rapid die-off in newly recovering staghorn coral populations in the upper Florida Keys. Through subsequent efforts and partnerships: 1) swift precautionary management action was taken by FKNMS to quarantine the most affected site (white banks dry rocks) and provide related public outreach efforts, 2) the most comprehensive field sampling of a coral disease outbreak to date was undertaken for diagnostic studies to identify pathogen (coordinated by the coral disease and health consortium), 3) field studies at the major outbreak site demonstrated that the condition was transmissible between staghorn colonies and to the congeneric elkhorn coral by direct tissue contact and that the condition could be transmitted by a predator vector (corallivorous snail). results of the latter are in review for peer-reviewed publication.

4. Evaluation of reef "structural restoration" and coral recovery at the Elpis and Maitland grounding restoration sites in the Florida Keys. Results show that lime rock serves as a more suitable substrate than concrete for coral recruitment and development. Also, it appears that weedy corals recruit and grow well on these structures, and may converge to similar structure as weedy-dominated reference populations within a decadal scale. However, broadcasting (reef-building) corals recruit very poorly overall, and hence, recovery trajectories do not approach broadcast-dominated reference populations at all. Results are published in Bulletin of Marine Science and Restoration Ecology.

Early Life History Team:

1. A major reference book entitled 'Early Stages of Fishes of the Western Central North Atlantic' is near completion. This is a 10-year project summarizing new information on the early life history stages of fishes from Hatteras to the Equator. Over 45 authors are contributing chapters of their specialty and the resulting book will comprise 2 volumes of over 1,000 pages per volume. Dr. W. J. Richards, senior scientist, is the editor of this book, which applies to all the fishes that have pelagic early stages.

2. Florida Bay research has advanced the science for understanding the recruitment of early life history stages of snappers with emphasis on recruitment mechanisms and oceanographic processes. Several major papers have reported on offshore larval supply of snapper larvae into Florida Bay and coastal processes affecting larval supply into Florida Bay. Inshore habitats in Florida Bay; settlement, growth, and migration of snappers in Florida Bay and adjacent marine ecosystems including upstream sources in Mexico has involved cooperative work with Mexican scientists in Yucatan and Quintano Roo.

3. Advances in the use of geochemical tracers to determine origins of young stages of coral reef fishes. Determining sources is critical to management for establishing population parameters and delineating marine protected areas (MPA's). It is critical to know the early life patterns and the use of rare earths in otoliths has demonstrated for the

first time that sites of origin can be determined with this technique. Papers on this subject have recently been presented at international meetings: 'Use of geochemical tracers to elucidate life history trajectories of gray snapper within South Florida's marine ecosystems' and 'ICP-MS elemental analysis of juvenile snapper otoliths results in rare earth element based Florida Bay signature'.

4. Monitoring coral reef fish utilization of marine protected areas (MPA's) and recruitment of coral reef fish to assess spawning aggregations, and MPA effectiveness.

5. Annual determination of the numbers of larval bluefin tuna found in the Gulf of Mexico spawning grounds. These results are used to formulate indices of larval bluefin tuna abundance that is used by ICCAT in population assessment research on the bluefin tuna.

Large Opening Turtle Excluder Devices (TEDs):
Stranding research and evaluation from observer programs revealed that some large adult sea turtles could not easily pass out of standard TED equipped shrimp trawls. NOAA Fisheries began rule implementation to increase the size of the standard TED to allow these larger sea turtle to pass out of the net. The Galveston Laboratory provided observers to commercial shrimp vessels equipped with the new TED designs to collect information about shrimp loss, sea turtle capture rates in the nets, and general TED mechanical functionality reports. The Galveston Laboratory also provided analyses of shrimp catch and effort data that showed a lack of detrimental effects (i.e., low catch, increased effort) on the shrimp fishery from general TED use. These data were crucial to NOAA Fisheries in the successful implementation of the new Large Opening TED Rule. (related pubs - Griffin, W., J. Ward, and J. Nance. 1996; Renaud, M. L., J. M. Nance, E. Scott-Denton and G. R. Gitschlag. 1997; Epperly, S., L. Avens, L. Garrison, T. Henwood, W. Hoggard, J. Mitchell, J. Nance, J. Poffenberger, C. Sasso, E. Scott-Denton, and C. Yeung. 2002)

Shrimp Catch and Hypoxic Zone:
The large hypoxic area, or dead zone, that occurs off Louisiana each summer is thought to cause problems to fisheries in the area. Yet, there has been little direct evidence or links showing these effects. Galveston Laboratory has provided analyses showing relationships between shrimp catch rates and hypoxia. These relationships have provided initial evidence that suggest hypoxia has an effect on this commercial fishery. Current research efforts are being directed to look at the shrimp catch vs hypoxia linkages, and also a the shrimp catch vs nursery area linkages. These results should allow us to develop a more definitive answer as to the effects of hypoxia on shrimp populations and commercial harvest.(related publications - Zimmerman, R., J. Nance, and J. Williams. 1997; Zimmerman, R. J. and J. M. Nance. 2001).

Captive Reared Sea Turtles for Research:
Principally used as test animals in TED research, captive sea turtles are also used for cooperative research in genetics, physiology, and long studies. Recent cooperating investigators are from the NMFS Pascagoula Laboratory, the NMFS Honolulu

Laboratory North Carolina State University, Texas A&M University, the University of Hawaii) and the University of North Carolina, the Houston Zoo, Houston, Texas and M.D. Anderson Cancer Research Center, in Houston. The live sea turtles are also used in educational outreach to schools and the public. Guided instructional tours have been given to approximately 60,000 visitors during the past five years. The majority of the visitors were K-12 school children and teachers.

Trap Fishing Impacts on Coral Reef Habitats:
Trap fishing for fishes and lobster is common near coral reefs in Florida and the Caribbean, but little is known about the effects on targeted habitats. In a multi-year project (2001-2006) in the U.S. Virgin Islands, Puerto Rico, and the Florida Keys, we are: 1) analyzing broad-scale distributions of trap fishing effort from fisher information, 2) locating and mapping traps relative to bottom habitat types using a geographical information system (GIS), 3) quantifying seasonal trap densities by habitat type, 4) quantifying damage to corals and other structure-providing organisms, and 5) examining recovery rates of damaged organisms Findings suggest that available benthic maps are not sufficient for fine-scale analysis of habitat use, and that boat-based surveys are needed. Early indications are that trap damage to habitats is not a high as initially expected. (related publications - Sheridan, P., R. Hill and B. Kojis, in press; Sheridan, P., R. Hill, G. Matthews and R. Appeldoorn 2003.)

Estimating the Fishery Value of Salt Marsh Restoration:
The benefits of different wetland restoration techniques for fishery resources are being assessed by comparing habitat complexity, fishery support, and construction costs among five salt marsh restoration projects in Galveston Bay. Geographic Information System (GIS) and high-resolution aerial photography is used to classify area marsh and water and apply fishery density models to assess support for brown shrimp, white shrimp, and blue crab. Models show that restored sites supported relatively high populations of fishery species compared to pre-restoration conditions, but were not equivalent to a natural marsh system. Maximizing intertidal marsh area and a high degree of water-marsh interspersion provides the most benefit for these fishery species. (related publication- Rozas, L. P., P. Caldwell and T. J. Minello, in press).

6. Please provide a listing of legal mandates for the work in the lab/division

Anadromous Fish Conservation Act
The Anadromous Fish Conservation Act (16 U.S.C. 757a-757g; Pub. L. 89-304, as amended) authorizes the Secretary of Commerce, along with the Secretary of Interior, or both, to enter into cooperative agreements to protect anadromous and Great Lakes fishery resources. To conserve, develop, and enhance anadromous fisheries, the fisheries which the United States has agreed to conserve through international agreements, and the fisheries of the Great Lakes and Lake Champlain, the Secretary may enter into agreements with States and other non-Federal interests. An agreement must specify: (1) the actions to be taken; (2) the benefits expected; (3) the estimated costs; (4) the cost distribution between the involved parties; (5) the term of the agreement; (6) the terms and

conditions for disposal of property acquired by the Secretary; and (7) any other pertinent terms and conditions.

Pursuant to the agreements authorized under the Act, the Secretary may: (1) conduct investigations, engineering and biological surveys, and research; (2) carry out stream clearance activities; (3) undertake actions to facilitate the fishery resources and their free migration; (4) use fish hatcheries to accomplish the purposes of this Act; (5) study and make recommendations regarding the development and management of streams and other bodies of water consistent with the intent of the Act; (6) acquire lands or interest therein; (7) accept donations to be used for acquiring or managing lands or interests therein; and (8) administer such lands or interest therein in a manner consistent with the intent of this Act. Following the collection of these data, the Secretary makes recommendations pertaining to the elimination or reduction of polluting substances detrimental to fish and wildlife in interstate or navigable waterways. Joint NMFS-FWS regulations applicable to this program are published in 50 C.F.R. Part 401.

The Secretary of Commerce also cooperates with States and other non-Federal interests in studying anadromous stocks of Atlantic striped bass. NMFS and the U.S. FWS hold periodic joint meetings to discuss progress of the Emergency Striped Bass Research Study

Atlantic Coastal Fisheries Cooperative Management Act
The Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5101-5109; Title VIII of Pub. L. 103-206, as amended) authorizes the Secretary of Commerce to provide financial assistance to the Atlantic States Marine Fisheries Commission and to Atlantic coastal States to adopt and implement fishery management plans for coastal fisheries. If the Commission reports to the Secretary that it finds a State is not complying with an adopted plan, the Secretary may impose a moratorium on all fishing for the species in question within the offending State's waters until that State comes into compliance.

Endangered Species Act
The Endangered Species Act (ESA; 16 U.S.C. 1531-1543; Pub. L. 93-205, as amended) was enacted in 1973 to provide for the conservation of species which are in danger of extinction throughout all or a significant portion of their range (for more information, see "Endangered Species: Continuing Controversy," CRS Issue Brief IB97046). "Species" is defined by the Act to mean either a species, a subspecies, or, for vertebrates (i.e., fish, reptiles, mammals, etc.) only, a distinct population.

Anyone may petition to have a species considered for listing as endangered or threatened, the action which qualifies it for increased protective measures. NMFS regulations concerning ESA listing procedures are published at 50 C.F.R. Parts 217-227, with joint NMFS-FWS regulations appearing at 50 C.F.R. Parts 402 and 424-453. Generally, the U.S. FWS coordinates ESA activities for terrestrial and freshwater species, while NMFS is responsible for marine species and Pacific salmon. Within 90 days of a listing petition's filing, an agency decision is made on whether to reject the petition, or accept it for a further intensive status review of the species. (2) If a status review is conducted, it is

initiated with a public solicitation of information and data relevant to the species of concern. A species must be listed if it is threatened or endangered because of any of the following five factors:

* - present or threatened destruction, modification, or curtailment of its habitat or range;
* - overutilization for commercial, recreational, scientific, or educational purposes;
* - disease or predation;
* - inadequacy of existing regulatory mechanisms; and
* - other natural or manmade factors affecting its continued existence.

Additional important considerations for an ESA listing decision, especially concerning anadromous fish, include defining distinct population segments that qualify as species, determining the abundance threshold for threatened and endangered status, and determining the causes of decline. NMFS will consider listing individual Pacific salmon populations only if they are evolutionarily significant units, defined as "substantially reproductively isolated" and "an important component in the evolutionary legacy of the species" (56 Federal Register 58612, Nov. 20, 1991; for more information, see CRS Report 92-944 ENR, The Listing of a Species: Legal Definitions and Biological Realities).

Economic considerations are legally not relevant to the listing decision; this decision is to be made solely on the basis of the best biological data available. Except for extensions due to consideration of other proposals, a one-year time limit is placed on making the decision to propose listing. If the agency proposes listing, public comments are again solicited on the proposed listing, and a final decision is made within one year after the issuance of the proposal. (3)

Concurrent with the listing decision, critical habitat believed necessary for the continued survival of species is designated. For this decision, economic impacts must be considered. If information is insufficient to designate critical habitat at the time of listing, or if designation of critical habitat would not be "prudent," the Government may take an additional year to identify it.

Once a species is listed, recovery plans are prepared which identify mitigation measures to be initiated to improve the species' status. In addition, the ESA §7 consultation process requires all Federal agencies to use their authorities to conduct conservation programs (mitigation measures) and to consult with NMFS (or the FWS) concerning the potential effects of their actions on any species under the Act's jurisdiction.

Much of NMFS's recent ESA activities involve its duty to develop strategies for the conservation and survival of endangered and threatened species. In the area of marine mammals, the ESA and the Marine Mammal Protection Act (MMPA) offer similar management authority for endangered and threatened marine mammal species or stocks. Section 4(f) of the ESA requires the development and implementation of recovery conservation plans, while §115 of the MMPA mandates conservation plans modeled after

the ESA for listed species. Several species of whales and sea turtles, the North Pacific fur seal, Hawaiian monk seals, and Stellar sea lions have final recovery plans or conservation plans. Major efforts are also underway for the recovery of listed stocks of Pacific salmon, shortnose sturgeon, and grey sturgeon. Consultations occur on an on-going basis under §7 with Federal action agencies to avoid or mitigate the impacts of their activities on listed species. NMFS also reviews non-Federal activities which may affect listed species and issues §10 permits for incidental take.

Interjurisdictional Fisheries Act of 1986
The Interjurisdictional Fisheries Act of 1986 (16 U.S.C. 4101-4107; Pub. L. 99-659, as amended) authorizes the Secretary of Commerce to apportion money to the States for use in developing research programs to enhance the management of interjurisdictional fisheries. NMFS regulations applicable to this program are published in 50 C.F.R. Part 253.

The Secretary of Commerce is authorized to apportion funds to the States for the development of interjurisdictional fisheries. For funds to be disbursed, the Secretary of Commerce has to evaluate the proposed project to ensure funds will be used in the most efficient manner. The Federal Government's share of the cost does not exceed 75 percent of the total projected cost. If the Secretary rejects a proposal, a written explanation must be given to the petitioning State. Any property acquired during the fulfillment of a project is considered the property of the State. However, if the State sells the property for a profit, an amount equal to the proportion of Federal funding which went into acquiring the property must be repaid to the U.S. Treasury. Once States have received funding, the Secretary of Commerce writes a follow-up report on the project for Congress. Included in the report are a description of the project, how much money has been spent on each project by both State and Federal Governments, an assessment of how the project is progressing, and a statement describing all funds which have been allocated pursuant to this Act and the amount of remaining funds.

Magnuson Fishery Conservation and Management Act
The 1976 enactment of the Fishery Conservation and Management Act (FCMA; 16 U.S.C. 1801-1882; Pub. L. 94-265, as amended; later renamed the Magnuson Fishery Conservation and Management Act for the late Senator Warren G. Magnuson) ushered in a new era for U.S. marine fisheries management. The FCMA was signed into law on April 13, 1976, after several years of debate on the merits of, and various approaches to, extended fisheries jurisdiction. On March 1, 1977, fisheries resources within 200 miles of all U.S. coasts came under Federal jurisdiction, and a multifaceted regional management system began allocating harvesting rights, with priority given to domestic enterprises. Exclusive Federal management authority was vested in NMFS, within NOAA of the Department of Commerce. The 200-mile fisheries conservation zone was superseded by an EEZ, proclaimed by President Reagan on March 10, 1983. (4)

Under provisions of this Act, eight Regional Fishery Management Councils were established for the New England, Mid-Atlantic, South Atlantic, Caribbean, Gulf of Mexico, Pacific, Western Pacific, and North Pacific regions. Regulations relating to

Regional Council activities and operations are published in 50 C.F.R. Parts 601 and 605. The eight Councils prepare fishery management plans (FMPs) for those fisheries, (5) both commercial and recreational, which they determine to require active Federal management. Guidelines for preparation of FMPs in conformance with national standards (§1851 of the MFCMA) are published in 50 C.F.R. Part 602. An environmental assessment or environmental impact statement is prepared for every FMP submitted. After public hearings on these plans, revised FMPs and draft regulations are submitted to the Secretary of Commerce for approval. Regulations are published in the Federal Register to implement approved plans. Completed plans may be amended and revised through similar procedures. As of January 1, 1995, these Councils had implemented 34 FMPs for various fish and shellfish resources, with 11 additional plans in various stages of development. Some plans are created for individual or a few closely related species (e.g., FMPs for red drum by the South Atlantic Council, northern anchovy by the Pacific Council, and for shrimp by the Gulf of Mexico Council). Others are developed for larger species assemblages inhabiting similar habitat (e.g., FMPs for Gulf of Alaska groundfish by the North Pacific Council and for reef fish by the Gulf of Mexico Council). Many of the implemented plans have undergone subsequent amendment (one has been amended more than 30 times), and three plans have been developed and implemented jointly by two or more Councils. In addition, Pub. L. 101-627 amended the MFCMA to give the Secretary of Commerce the responsibility for preparing FMPs for Atlantic highly migratory species, such as sharks, billfish, and tuna. Regulations implementing individual FMPs are published in 50 C.F.R. Parts 625 through 685.

Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. 1361-1421; Pub. L. 92-522, as amended) was most recently reauthorized in 1994 (Pub. L. 103-238), and the current authorization for appropriations expires at the end of FY99. In passing the MMPA in 1972, Congress found that:

* - certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;
* - such species and population stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and, consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population level;
* - measures should be taken immediately to replenish any species or population stock which has already been diminished below its optimum sustainable level. In particular, efforts should be made to protect the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man's actions;
* - there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully; and
* - marine mammals have proven themselves to be resources of great international significance, aesthetic and recreational as well as economic. (6)

The MMPA established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. It defines the term "take" to mean "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." (7)

Under the MMPA, the Secretary of Commerce is responsible for the conservation and management of pinnipeds (other than walruses) and cetaceans. The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs. (8) The Secretary of Commerce delegated MMPA authority to NMFS. Title II of the Act established an independent Marine Mammal Commission and its Committee of Scientific Advisors to oversee and recommend actions necessary to meet the intents and provisions of the Act. NMFS regulations concerning MMPA permits and procedures are published at 50 C.F.R. Parts 216 and 228-229, with additional joint NMFS-FWS regulations appearing at 50 C.F.R. Part 403.

Prior to passage of the MMPA, States were responsible for the marine mammals on lands and in waters under their jurisdiction. The MMPA vested marine mammal management authority in the Federal Government. It provides that management authority, on a species-by-species basis, could be returned to States that adopt conservation and management programs consistent with the purposes and policies of the Act. (9) It also provides that the moratorium on taking can be waived for specific purposes (excluding public display and scientific research, for which permits may be issued) if the taking will not disadvantage the affected species or stock. It provides that permits may be issued to take or import any marine mammal species, including depleted species, to conduct scientific research or to enhance the survival or recovery of a species or stocky Permits may also be issued to take or import non-depleted species for public display. These permits are very specific in designating numbers and species of animal that can be taken, as well as times, dates, places, and methods of taking.

In 1994, Pub. L. 103-238 amended the MMPA, establishing a new regime to govern the taking of marine mammals incidental to commercial fishing, and replacing an Interim Exemption in place since 1988. This new regime included the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and implementation of take reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries, and studies of pinniped-fishery interactions. The mortality of dolphins during tuna seining operations in the eastern tropical Pacific Ocean was a major impetus for passage of the MMPA in 1972, and it continues to be a major international issue which is dealt with under §104 of the MMPA.

The Act also provides that the Secretary shall allow the incidental, but not intentional, taking, by U.S. citizens engaged in activities other than commercial fishing (e.g., offshore oil and gas development), of small numbers of depleted as well as non-depleted marine mammals if, after notice and opportunity for public comment, the Secretary:

(i) finds that the total of such taking will have a negligible impact on the affected species or stock, and will not have an unmitigable adverse impact on the availability of such species or stock for taking for subsistence uses by Alaska Natives; and

(ii) prescribes regulations setting forth permissible methods of taking, and requirements for monitoring and reporting such taking." However, the 1994 Amendments provide that this regulation requirement may be waived provided that the proposed activity results in only harassment, and no serious injury or mortality is anticipated.

The Act's moratorium on taking does not apply to taking by any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean if such taking is for subsistence purposes or for creating and selling authentic Native articles of handicrafts and clothing, and is not done in a wasteful manner. (12)

Since the 1994 Amendments became law, NMFS has published several regulations to implement requirements under the Act. These include the general authorization for scientific research (59 Federal Register 50372, October 3, 1994), the prohibition on intentional lethal take in commercial fishing (60 Federal Register 6036, February 1, 1995), and a final rule prohibiting approaching closer than 100 yards to humpback whales in Hawaii (60 Federal Register 3775, January 19, 1995). Also, in response to a request from the State of Washington under the new §120, on January 4, 1995, NMFS authorized the intentional lethal taking of individually identifiable California sea lions that are adversely affecting the continued existence of a run of steelhead trout at Ballard Locks, Washington. In addition, NMFS has published a proposed list of fisheries using the criteria established by §118 of the MMPA (59 Federal Register 45263, September 1, 1994) and established Scientific Review Groups to review various aspects towards implementing this section of the law. In this regard, NMFS has made available for public review the methodology for determining each marine mammal stock's Potential Biological Removal and the draft stock assessment reports. Final stock assessment reports are expected to be available in March 1995. In the late spring of 1995, NMFS anticipates publishing proposed regulations governing incidental takes by commercial fisheries under 6118 of the MMPA. In late 1994, NMFS held two public working sessions to discuss the draft regulations. Finally, as part of its public outreach program, NMFS's Office of Protected Resources publishes a Marine Mammal Protection Act Bulletin describing recent events concerning the implementation of the 1994 Amendments to the Act.

Marine Protection, Research, and Sanctuaries Act

Title II of the Marine Protection, Research, and Sanctuaries Act (33 U.S.C. 1441-1445; Title II of Pub. L. 92-532, as amended) authorizes research and monitoring related to ocean dumping as well as research on possible effects of pollution, overfishing, and human-induced changes of the ocean system. The Act provides for long-range research on the effects of human-induced changes to the marine environment and authorizes research and demonstration activities related to phasing out sewage and industrial waste dumping in the marine environment. The Department of Commerce, through NOM and

NMFS, conducts comprehensive and continued monitoring and research programs on the possible long-range effects of pollution, overfishing, and human-induced changes of ocean ecosystems, including the scientific assessment of natural resource damages from petroleum spills. NOAA also monitors the environmental conditions at certain dumping sites. The Act requires the Department of Commerce to present an annual report to Congress on these monitoring and research activities.

National Oceanic and Atmospheric Administration Marine Fisheries Program Authorization Act

The National Oceanic and Atmospheric Administration Marine Fisheries Program Authorization Act (97 Stat. 1409; Pub. L. 98-210, as amended) authorizes NMFS fisheries programs not otherwise authorized by law, including research to reduce entanglement of marine mammals in fishing gear, development of habitat restoration techniques, restoration of Chesapeake Bay, and conservation of Antarctic living marine resources.

Atlantic Tuna Convention Act

The Atlantic Tunas Convention Act of 1975 (16 U.S.C. 971-971i; Pub. L.94-70, as amended) authorizes the Secretary of Commerce to administer and enforce all provisions of the International Convention for the Conservation of Atlantic Tunas. Pursuant to this goal, the Secretary cooperates with the duly authorized officials of the government of any party to the Convention as well as any other Federal department or agency or any State.

The Secretary of Commerce is authorized to issue regulations deemed necessary to implement the Convention. These regulations are published at 50 C.F.R. Part 285. The Act authorizes the Secretary to use the personnel, services, and facilities of any agency of any party to the Convention, any other Federal department or agency, or any agency of any State. This Act also charges the Secretary with issuing regulations for the advancement of any recommendation from the International Commission for the Conservation of Atlantic Tunas (ICCAT). However, regulations promulgated under this Act are, to the extent practicable, to be consistent with fishery management plans prepared and implemented under the Magnuson Fishery Conservation and Management Act of 1976, as amended.

This Act authorizes the Secretary of Commerce to prohibit the entry into the United States of any species subject to regulations recommended by ICCAT and taken from the Convention area in a manner which would diminish the effectiveness of ICCAT's conservation efforts. The Secretary may also prohibit the importation of any fish regulated by the Convention from a country whose fishing vessels are harvesting in the Convention area in a manner which would diminish the effectiveness of ICCAT's recommendations. In addition, the Secretary prepares and submits biennial reports to Congress, summarizing bluefin tuna harvest by U.S. fishermen and the status of bluefin tuna stocks within the Convention area.

Marine Protection Research and Sanctuaries Act

The Marine Protection, Research, and Sanctuaries Act (MPRSA), often known as the Ocean Dumping Act, regulates the ocean dumping of waste, and provides for a research program on ocean dumping. It also provides for the designation and regulation of marine sanctuaries. The Act regulates the dumping of materials into ocean waters. It prevents, or restricts, dumping of materials that would degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities. It provides for a permitting process to control the ocean dumping of dredged material. The Act also establishes the marine sanctuaries program, which designates certain areas of the ocean waters as sanctuaries in order to preserve or restore these areas for their conservation, recreational, ecological, or aesthetic values. Section 102 authorizes the Administrator of the Environmental Protection Agency (EPA) to promulgate the ocean dumping criteria, to designate recommended ocean disposal sites, and to issue permits for dumping of materials into ocean waters. Section 103 authorizes the Secretary of the Army to issue permits for the transportation and disposal of dredged material in ocean waters. The disposal must meet the criteria established by the EPA. Section 302 of the Act authorizes the Secretary of Commerce to designate areas as marine sanctuaries for the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values

Coastal Wetlands Planning, Protection, and Restoration Act

The Coastal Wetlands Planning Protection and Restoration Act of 1990 authorizes the U.S. Fish and Wildlife Service to match National Coastal Wetlands Conservation grants to coastal states for the acquisition, management, restoration, or enhancement of wetlands. It assists states in setting aside land for environmental purposes. Priority is given to projects that are consistent with the National Wetlands Priority Conservation Plan, and located in states with funding programs dedicated to the acquisition of coastal wetlands, natural areas, and open spaces. Grants are provided for property acquisition only if the land will be managed for conservation over the long term. Coastal states (including the Great Lakes states) and trust territories are eligible to apply for National Coastal Wetlands Conservation grants.

Fish and Wildlife Coordination Act

The Act of March 10, 1934, authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.

The Act also directs the Bureau of Fisheries to use impounded waters for fish-culture stations and migratory-bird resting and nesting areas and requires consultation with the Bureau of Fisheries prior to the construction of any new dams to provide for fish migration. In addition, this Act authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on public lands, and the acceptance by the

Federal agencies of funds or lands for related purposes provided that land donations received the consent of the State in which they are located.

The amendments enacted in 1946 require consultation with the Fish and Wildlife Service and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources."

The amendments authorize the transfer of funds to the Fish and Wildlife Service to conduct related investigations. Land made available to the Secretary of Interior for wildlife protection purposes is to be managed directly by or under cooperative agreements with the Secretary of Interior. General plans may also include the transfer of project lands to a State for management. The amendments authorized appropriations for related purposes and specifically exempted the Tennessee Valley Authority from its provisions.

Miscellaneous amendments in 1936, 1947, 1948, and 1949 authorized the following provisions respectively: 1) purchase of lands in Idaho for use as a game management supply depot and laboratory, 2) transfer of lands in connection with the Crab Orchard Creek Project to the Secretary of Interior, 3) use of surplus Federal property for wildlife conservation purposes, and 4) exchange of lands within the Skagit National Wildlife Refuge.

The 1958 amendments added provisions to recognize the vital contribution of wildlife resources to the Nation and to require equal consideration and coordination of wildlife conservation with other water resources development programs, and authorized the Secretary of Interior to provide public fishing areas and accept donations of lands and funds.

The amendments also titled the law as the Fish and Wildlife Coordination Act and expanded the instances in which diversions or modifications to water bodies would require consultation with the Fish and Wildlife Service. These amendments permitted lands valuable to the Migratory Bird Management Program to be made available to the State agency exercising control over wildlife resources.

National Coral Reef Conservation Act.

The Coral Reef Conservation Act of 1999 was introduced by Senator Snowe (R- ME) on March 25, 1999. The bill, which is cosponsored by Senator McCain (R-AZ), was referred to the Senate Commerce Committee where it is awaiting action. This legislation would establish a program of Federal matching grants for the conservation of coral reefs to be administered by the National Oceanic and Atmospheric Administration (NOAA). Organizations eligible to submit grant proposals would include any natural resource management authority of a State or local government, as well as educational institutions and nongovernmental organizations with expertise in coral reef conservation.

The legislation would require coral restoration project proposals to meet the following goals: Promote sustainable development and long-term conservation of reefs; Address multiple use conflicts including use of coral, other reef species, and coral products; Enhance compliance with laws that address the taking of corals, reef species and products, and the use and management of coral reef ecosystems; Develop sound scientific information on the condition of coral reef ecosystems and the threats to coral ecosystems; Promote cooperative projects on reef conservation that involve local communities, nongovernmental organizations, and others in the private sector; Increase public knowledge of coral reef ecosystems and issues relating to long term conservation of reefs.

The Federal funding contribution for approved coral conservation projects would not exceed 50 percent of the total project cost unless the project totals $25,000 or less or the NOAA Administrator certifies that applicant could not reasonably meet the match requirements on a project of national significance. The Coral Reef Conservation Act would require 40 percent of the funding go to conservation projects in the Pacific Ocean, and 40 percent to projects in the Atlantic Ocean, Gulf of Mexico, and the Caribbean. The remaining 20 percent of the available funds would be awarded to projects that address emerging priorities and threats as identified by the NOAA Administrator in consultation with the Coral Reef Task Force (created by Executive Order on June 11, 1998). Total funding for these programs would be authorized at $3.8 million in each of fiscal years 2000 through 2002. An additional $200,000 would be available in each of those years for emergency assistance. Before making a final decision on a project proposal, the Administrator would be required to request written comments on the proposal from each State with jurisdiction over the affected area, as well as the relevant regional fishery management councils or National Marine Sanctuaries. In addition, projects costing more than $25,000 would be required to undergo a regional, merit-based, peer review process prior to a final decision on funding. The Coral Reef Conservation Act of 1999 also authorizes the NOAA Administrator to enter into an agreement with non-profit organization to establish a Coral Reef Conservation Fund. The organization chosen to administer this fund would be permitted to solicit donations to support partnership between the public and private sectors to promote coral reef conservation.

International Treaties:

International Commission for the conservation of Atlantic Tunas

Marine Mammal Commission

A "Listing and Summary of Legal Mandates" is available at the following web site: http://www.cnie.org/nle/leg-11.html

7.-The information in the attached Excel file with financial and staffing data is correct.

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